

REMARKS

This is a response to the Official Action dated September 27, 2007. Reconsideration of the above-identified application in view of the preceding amendments and the following remarks is respectfully requested.

Applicants would like to thank the Examiner for the courtesies extended during the telephone interviews of January 11, 2007 and January 24, 2007. As a result of the interviews, Applicants now submit a response believed to be in accordance with the substance of the interviews that should clarify the claims, as agreed with the Examiner.

Since there may be some confusion as to the original claims filed, in this paper, Applicants have amended the claims that include the term "multi-cell substrate." The claims in the application as published, US Patent Application Publication No. US 2004/0157320 on August 12, 2004, did not contain the term "multi-cell substrate" but did contain the new term "composite microarray slide" used to substitute for the term "multi-cell substrate" in the present paper. Applicants have done so because the Examiner in the official action, stated as follows:

In line 1 of claim 1, "multi-cell substrate" is uncertain as to meaning and scope.

Because the Examiner included the term "multi-cell substrate" in his rejection, Applicants assumed that the Examiner was using a different set of claims than the claims published in US Patent Application Publication No. US 2004/0157320 on August 12, 2004.

Claims 1, 3-14 and 32-62 are pending. Claims 15-31 were previously cancelled with claims 2 and 32-44 being canceled by the present amendment, without prejudice, as requested by the Examiner. Claims 1, 3-4, 7-14 and 45 are amended substantially in accordance with the Examiners suggestions. Claims 58-62 have been added to be consistent with the claim language of the issued parent case, now U.S. Patent No. 6,734,012.

112 Rejections

Claims 1-14 and 45 stand rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention as follows:

The claims are confusing and unclear by claim 1 being unclear as to the functional relationship of each step to other steps in producing the substrate of the preamble.

In line 1 of claim 1, "multi-cell substrate" is uncertain as to meaning and

scope. How "multi-cell" defines the substrate is uncertain. Moreover, steps of the method do not require any material that is "multi-cell". This term should be deleted.

In line 2 of the claim, "acts" should be changed to --- steps -- to be clear.

In lines 6-7, the claim is confusing by reciting "one or more non-solvents, opaque solids, and polyamide(s) " since "one" cannot be plural. Also is "one" requiring only the non-solvent, opaque solid or polyamide? The specification discloses that a combination of non-solvent, opaque solid and polyamide must be present. It is suggested that "one or more non-solvents, opaque solids, and polyamide(s)" be replaced with --- a non-solvent, an opaque solid and a polyamide ---.

Line 10 of the claim is confusing by requiring "producing an opaque solids-filled phase inversion casting dope" after mixing to cause dissolution in lines 8-9 without setting forth the step (or steps) that cause the inversion casting dope to be formed.

Lines 11-12 are unclear by requiring casting the dope without specifying the material on which the dope is casted.

Lines 13-14 are unclear by not specifying the physical step that results in "quenching", and not specifying the change in the casted dope that results in the casted dope being transformed to a substrate.

The physical difference between the casted dope and the substrate is uncertain. Furthermore, is the substrate the "non-luminescent microporous membrane" of line 4? If the substrate is not the membrane, when is the membrane produced?

Line 15 is confusing by being unclear as to physical phenomena that constitutes a "surface treatment". It is unclear how a surface treatment can be provided as separate from applying the surface treatment in line 16. A surface treatment will be provided when carrying out the step of treating the surface, and not before treating of the surface. Line 15 should be deleted. In line 16 change "the surface" to --- a surface ---, and after "substrate" insert --- to provide the non-porous substrate with a surface capable of covalently bonding to the non-luminescent microporous membrane ---.

In line 17, "intermingling" is uncertain as to meaning and scope. This term should be replaced with --- contacting ---.

In line 18, "sufficiently" should be deleted since being sufficient is relative and subjective, and is uncertain as to meaning and scope.

Claim 1 is unclear when the non-luminescent substrate of line 1 is produced in the steps carried out. If the "combination" in line 19 is the substrate of line 1, this should be made clear by canceling "wherein the combination produced thereby is useful in microarray applications" (bridging lines 19 and 20), and inserting --- to provide said non-luminescent substrate useful for carrying a microarray of biological polymers ---.

Claim 2 is confusing by requiring silane materials as the surface treatment since a material is not a treatment. The claim should be amended in line 1 after "is" by inserting --- provided by reacting the surface with a silane ---. In line 2,

"comprising" should be changed to --- consisting of --- to set forth proper language for a Markush group.

In line 2 of claim 4, "comprising" should be changed to --consisting of --- to set forth proper language for a Markush group.

Claim 8 is confusing by not having antecedent basis in claim 1 for "polyamido polyamine epichlorohydrin polymer". Where in the method of claim 1 is the polymer used?

In claims 10-13, there is not antecedent basis for "the carbon particles". Claim 1 does not require carbon particles. These claims should be dependent on claim 9, which requires the particles.

Claim 14 is confusing by not having antecedent basis for "the polyamide support". Claim 1 does not require the polyamide to be a support, and "support" should be deleted in claim 14.

Claim 45 is confusing by not having antecedent basis for "the phase inversion membrane" in line 1. Claim 1 does not require a phase inversion membrane. Furthermore, materials recited as members of the Markush group in lines 3-4 are not a membrane. While nylon 66, nylon 46 and nylon 6 can be a polyamide as required in line 7 of claim 1, polysulfone and polyvinylidenedifluoride are not a polyamide, and it is unclear where in claim 1 polysulfone and polyvinylidenedifluoride are used. It is suggested that claim 45 be amended in line 1 by canceling "phase inversion membrane" and inserting --- polyamide ---, and change lines 3-4 to read --- nylon 66, nylon 46 and nylon 6 ---.

Applicants wish to thank the Examiner acknowledging that the claims are free of the prior art and for the suggestions made in the Office Action and during the telephone interviews to assist Applicants attorney in overcoming the objections and the 35 USC § 112, second paragraph rejections.

Concerning the objection to the specification, Applicants have amended the specification in accordance with the Examiners suggestions and believe that support now exists in the specification for claim 45 and an action acknowledging same is respectfully requested.

Concerning claim 1, Applicants have made amendments substantially in accordance with the Examiner's suggestions except that the term "composite microarray slide," has replaced the term that the Examiner suggested be deleted, and the phrase "phase inversion polymer capable of forming a phase inversion membrane" has been substituted for the term "polyamide." As suggested by the Examiner during a recent telephone interview, the step "producing an opaque solids-filled phase inversion casting dope;" has been deleted, as the mixing step causes the casting dope to be formed. Otherwise, Applicants believe that they have incorporated the Examiners suggestions into amended Claim 1 and believe that Claim 1 is now in condition for allowance and an action acknowledging same is respectfully requested.

Concerning claims 3-4 and 7-14, Applicants have amended the claims in accordance with the Examiners suggestions and have made other minor amendments that conform the terms to those now present in amended claim 1 such that Applicants believe that these claims are now in condition for allowance and an action acknowledging same is respectfully requested.

Concerning claim 8, Applicants have amended the claim to indicate that the biaxially oriented polyethylene terephthalate (bo-PET), as a product available from Dupont Teijin Films U.S., Wilmington, Delaware, under the tradename MYLAR is prepared for bonding with a new, not previously mentioned component “a polyamido polyamine epichlorohydrin polymer,” and as such, the use of “a” is believed correct and an action acknowledging same is respectfully requested.

Concerning claim 14, Applicants have deviated from the Examiners suggestions in that the term “polymer” has been substituted for “polyamide” to conform the terms to those now present in amended claim 1 such that Applicants believe that this claim is now in condition for allowance and an action acknowledging same is respectfully requested.

Concerning claim 45, Applicants have deviated from the Examiners suggestions in that the term “polymer” has been substituted for “polyamide” to conform the terms to those now present in amended claim 1, as approved by the Examiner during the interviews, such that Applicants believe that claim 45 is now in condition for allowance and an action acknowledging same is respectfully requested.

New claims 58-61 correspond with claims 2-5 of issued parent US Patent No. 6,734,012 and new claim 62 is supported in claims 2 and 16 of the specification as filed.

In summary, Applicants submit that the rejections of claims 1, 3-14 and 45 under 35 USC § 112, second paragraph, have been overcome, and that the rejections should be withdrawn.

In view of the above, it is submitted that the application is in condition for allowance. Allowance of claims 1, 3-14 and 45, as amended, and new claims 58-62 at an early date is solicited.

This Amendment is filed with a two-month extension of time. Please charge the two-month extension fee to Deposit Account No. 13-3723.

Respectfully submitted,

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Date

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